

August 14, 2000

SUBJECT: Estimation of Emission of VOCs from Rendering Facilities

To Whom It May Concern:

The North Carolina Division of Air Quality (DAQ) is making this memo available to advise rendering facilities in North Carolina of the State's current knowledge regarding Volatile Organic Compound (VOC) emissions emitted from rendering processes. Although individual facilities are responsible for the accuracy of their emission estimates, the factors discussed in this memo will be used as a primary basis for comparison and evaluation of those estimates.

In 1999, Carolina By-Products – Fayetteville Plant conducted stack testing to determine the VOC emissions from its Pet Food Grade Plant, with oversight from the NC DAQ. EPA Method 25a was used to measure the VOC emissions from the facility's packed bed scrubber and cross flow scrubber. The VOC emissions, measured "as propane", were then converted to "as VOC" by both the company's stack test company and the NC DAQ Stationary Source Compliance Branch. This conversion was based on a VOC compound associated with the rendering process.

The following is the summary of the VOC emission rates determined from those stack tests. After-control plant emissions would be the sum of the emissions from the two scrubbers. Note: the plant was running at approximately 52,295 lbs/hr. These emissions are as VOC and not as propane.

Crossflow Scrubber:	2.4 lbs/hr converts to 0.0917 lbs/ton
(Room Air)	
Packed Bed Scrubber:	2.6 lbs/hr converts to 0.0994 lbs/ton
(High Intensity – Offal Cooker)	

It is important to note that this plant processes only chicken offal/meat, so the VOC emission rates are expected to be lower than processes with additional operations. Also this was a new plant with new scrubbers and state-of-the-art controls. It is not clear how these emissions would compare to those at an older facility and where there are other production processes. Other production process that need to be evaluated for air emissions include:

- Blood Drying
- Feather Cooking
- Grease Processing

Based on these stack test results, it is DAQ's position that facilities operating rendering processes have been under reporting the VOC emissions from their production processes. Therefore, DAQ is requesting that the above emission factors **or** site-specific emission factors be used to estimate and report VOC emissions from your facility. The US EPA and the DAQ have long stated that the best emission factor data are those established at the individual facility using data specific to that site. These emission factors need to be representative of actual, normal operations and typical conditions at the facility. Whenever such data exist, these data are the "best" information you have to provide to the regulatory agency. Only when adequate and defensible individual facility data are lacking does the engineer then use unadjusted emission factors with any related cautions.

At present, this is believed to be the best available data in North Carolina. You are therefore advised to use these factors in the emission inventory and permit application preparations to estimate your actual and/or potential VOC emissions if you do not have site specific VOC emission factors. These data should be used in future emission inventories, permit applications, and compliance determinations. You should also recall that the estimation of potential-to-emit must be included in your application to obtain the proper class/category of air permit (Title V, Synthetic Minor, Small). Since the Spring of 1994, facilities are subject to Title V permitting requirements if they have the potential to emit any one criteria pollutant in quantities ≥ 100 tons per year or any one hazardous air pollutant (HAPs) in quantities ≥ 10 tons per year or the sum of all hazardous air pollutants in quantities ≥ 25 tons per year.

Since companies have already submitted their emissions inventories for calendar year 1999, the appropriate regional office will be using these data, along with your reported production information, to estimate these additional VOCs from your facilities. If you prefer to make this calculation yourself, or if you have site-specific data for your facility, please contact the appropriate DAQ Regional Office. If you have any questions concerning your current air permit or air permit category, please do not hesitate to contact your Regional Office for assistance.

We appreciate your attention to this matter. As always, if you have any questions or concerns, please do not hesitate to contact the appropriate DAQ Regional Office.

Sincerely,

B. Keith Overcash, P.E.
Deputy Director

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cc: Laura Butler, Chief, Permitting Section
Regional Supervisors
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